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A

Minor

Second semester Project Proposal

On

"ONLINE TICKET BOOKING SYSTEM"

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ABSTRACT

Online Ticket Booking System designed in C++ programming language. Online Ticket Booking System is a software which is used for the booking tickets from online and help to keeping records of tickets, vehicle and routes in a systematic way. This system aim is solving the issue of booking ticket for public and also solve the issue of management of tickets during the large amount of people are booking their ticket in same like festival periods and other occasion. This system aim to give function like book ticket, cancel ticket, search routes, search destination, select vehicle according the need of customer, manage ticket information, login system, sign up system, update information and etc. We are making this system for the collage project for 2nd semester. We are using a waterfall SDLC model for the making of this system because this is a small project made for the collage semester project we know already know the all requirement so, we are using a waterfall SDLC model. To keep data secure and confidential we will use a login system for both user and customer. After using a login system only authentic people can use this system which can make this system more secure and confidential. The methodology used in developing in the Online Ticket Booking System includes researching in the topic, collecting the problem or requirement, system designing, coding, implementation, and testing. We are making this software totally feasible by the all accepts. The expected outcome of this project is a reliable Ticket Booking System that can solve the problem of customer and admin faces during the booking ticket among the huge number of mass.

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OTBS	Online Ticket Booking System

CHAPTER1: INTRODUCTION

1.1 Background

Few year ago, we had the hassle of staying in the queue to purchase tickets and too book vehicles. Especially during festival seasons, people wouldn't the tickets even after staying in the queue. To solve this issue we are designing Online Ticket Booking System which is designed in C++ programming language. Online Ticket Booking System is a software application which allow the user for book their ticket for various events, travels etc. through internet. In the today fast-pace world all most all the work are done through online and by the help of online ticket booking system we can easily book our ticket through online which can help to make our life easier and faster by saving our time and cost as per our need.

The main goal of this project is make offline ticket booking system is changed in the online ticket booking system. In this system we can add feature like book ticket, cancel ticket, see time of bus, saving data, and solve financial issue. After making this system this can help to solve the problem of paper work and financial issue which can directly help for the person who can book ticket offline. We are trying to make a complete computerized and online ticket booking system using a C++ programming language.

In the 2nd semester project we are decide to make an online ticket booking system for make people life easier and faster by saving their time and cost. Our project online ticket booking system is made for a general public so it can perform the almost all activity which is generally need for a public like search location, book ticket, cancel ticket, search time, save data. In this system we save our data for a long time like customer data and financial data and other required data which may be used in future.

1.2 Problem statement

There are the lots of problem in old type of Online Ticket Booking system which can affect customer and admin also. Due to the paper work used in the booking tickets many times information of booked ticket is lost. Also the present time ticket booking company and ticket counter book their ticket in paper which is more complicated to the customer. Without online ticket booking system more time of customer is loss. Especially in festival time more people are travels one places to another place at that time there is more complicated to the admin to manage ticket and also complicated to book large number of ticket. To solve the above problem we making the Online Ticket Booking System.

1.3   Objectives

The main aim of developing Online Ticket Booking System are listed below:

- To minimize the paper work which is used during the ticket booking.
- To data secure and confidential and solve the current issue of ticket booking system.
- To create easy interface for customer for booking their tickets.

1.4   Scope of the project

This system is made for the solving the present issue of ticket counter and customer which is used in ticket booking company and ticket counter where people can easily book their ticket according to their need. This system used for the looking the available tickets, status and status of road. Online Ticket Booking System is used for the see the information about booked ticket and tracking the booked ticket which can help to increase the business.

1.5   Significance and limitation

Significance

The significance of this project is this system help to solve the issue of ticket booking center and help to vehicle staff to manage vehicle. This system can help to the save time of customer and money of company with replacing a staff from the company which can save money of company. This system can also help to keep data safe and secure from other. This system also help to solve the data lost problem and reduce the paper work by making work from digital.

Limitation

We are making this project in C++ programming language so we cannot able to use high level graphic and we are using simple text based system which is complicated to use for user. C++ program to complicate to maintain and update for the other developer so it's complicated to make change in the system in future. Some guidance is needed for the new user.

CHAPTER 2: LITERATURE REVIEW

After starting the making this project we are check the other existing system, books for concept and we found the many problems in these system and we decide the making our own project which is more effective and more comfort table and less paper work should be doing after the using this system. And at the present time there is booking ticket through offline and booked ticket in paper there is high chance to lost ticket. So there was the need to develop a system which could manage all these things and reduce the paperwork.

2.1 Study of existing system

According to the Grish kumar online Railway ticketing system is a software which can help the people to book their ticket through online. This system is made in C++ language. This system is so similar to our online ticket booking system. They made a system only for a rail way in this system he give function like search train, search routes, see status of book ticket and ticket book trough the online but there is a unavailable the online payment system.[1]

By the author of Sasto ticket Nepal online ticket booking system is platform where user can easily book their tickets through online. We can visit the sastoticket.com for see the how they book their tickets which is made by the Sasto Ticket Nepal Company and this system is made by using the HMTL, CSS and other web based programming language. This the online ticket booking company which can book their ticket through online they contact their costumer by their website. We should search the place and choose the vehicle according to our choice and payment through online. [2]

According to the student of CMR institute of technology who named is Puynaslok Sarkar made an Online Ticket Booking System in web based technology by using HTML, CSS and JavaScript and other programming language. In this system people can book their travels tickets and movie ticket easily. In this system also unavailable of online payment and phone pay by. By using this system people can easily book their ticket, cancel ticket, selects route and select vehicle according to their choice. [3]

According to the Mensash Yaw online ticket booking system is a software which can help the user to book their ticket from online. In the time of researching about the online ticket booking system we found the article of this system written by the person named as Mensash Yaw who is a journalist of Asian journal of science and technology. In this article there is describe about the web based online ticket booking system for the all types of vehicle which

is made by Babcock university of Negirea. In this system user can easily book ticket, cancel ticket, select route, selects vehicle and view information etc. Admin can be able to publish news, view records, and do online payments and other necessary access. [4]

According to the Kamal Acharaya Online Vehicle Rental system is a software or platform where people can book their ticket easily with their interest which is more comfortable than the offline ticket booking system. He made this system for the make the ticket booking is offline and make everything digital. He can add a feature like book ticket, view seats and ticket, view customer details, login and signup system. He design a web based ticket booking system with using a HTML, CSS and other web based programming language. [5]

CHAPTER 3: SYSTEM ANALYSIS

3.1 Requirement Analysis:

Requirement analysis is the process of gathering, documenting, and analyzing requirements for a system to be developed. It is a crucial step in the software development lifecycle, as it helps ensure that the final product meets the needs and expectations of its users. Library management system is a small project. It is used only for small places so we need Dev C++ and VS code software for making this system. Mingw software is needed for change the code in binary form and operate this system. This software is only for small purpose so we don't need large database we can store data in own computer storage device.

3.1.1   Functional requirement
It describe the specific functions that the system must be performed:

- **User authentication:**

   The system should allow to user to securely login after using a username and password.

- **Ticket management:**

   The system should provide functionality for book ticket, cancel ticket, and view seats Etc.

3.1.2   Non-functional requirements
Outline the quality attributes and constraints that the system must adhere to. These could include performance, reliability, usability, security, etc.

- **Efficiency requirement:**

   When a ticket booking system will be implemented in digital system counter staff get help from this system in ticket booking and other work.

- **Performance:**

   The system should respond to user inputs within 2 seconds under normal load conditions.

- **Security:**

   Confidential information's are operated only by an admin. So, data are secured and confidential.

- **Usability:**

Usability is the main non-functional requirement for online ticket booking system. The UI should be simple enough for everyone to understand and get the relevant information without any special training.

- **Accuracy:**

Accuracy is another important non-functional requirement for the online ticket booking system. This system can store exact data if we can store right data, transaction process is accurate every time.

- **Availability:**

The System should be available for the duration when the ticket counter operates and must be recovered within an hour or less if it fails. The system should respond to the requests within two seconds or less.

- **Maintainability:**

The software should be easily maintainable and adding new features and making changes to the software must be as simple as possible. In addition to this, the software must also be portable.

3.2 Feasibility study

3.2.1 Technical feasibility

We can strongly say that it is technically feasible, since there will not be much difficulty in getting required resources for the development and maintaining the system as well. All the resources needed for the development of the software are easily available. So we can say our upcoming project is fully technically feasible.

3.2.2 Operational feasibility

Operational feasibility studies also examine how a project plan satisfies the requirements identified in the requirements analysis phase of system development and also determine the methodology that fulfil your objectives or not. OTBS is an operational feasible. This system is made in a low-level programming language (C++ programming).

3.2.3 Legal feasibility

This software is fully legal feasible by all aspect. Library management software follow the whole rule and regulation of cyber law and social media law. It can protect data confidential. In this software we keep our simple data like name, address, phone no, roll no, etc.

3.2.4 Economic feasibility

For the development of this application is highly economically feasible. Organization not needed to spend much money for developing this software. We are making this project for the educational so no money needed in the making of the project.

3.2.5 Scheduling Feasibility

Our Project life-cycle took over weeks of scheduling which are as listed:

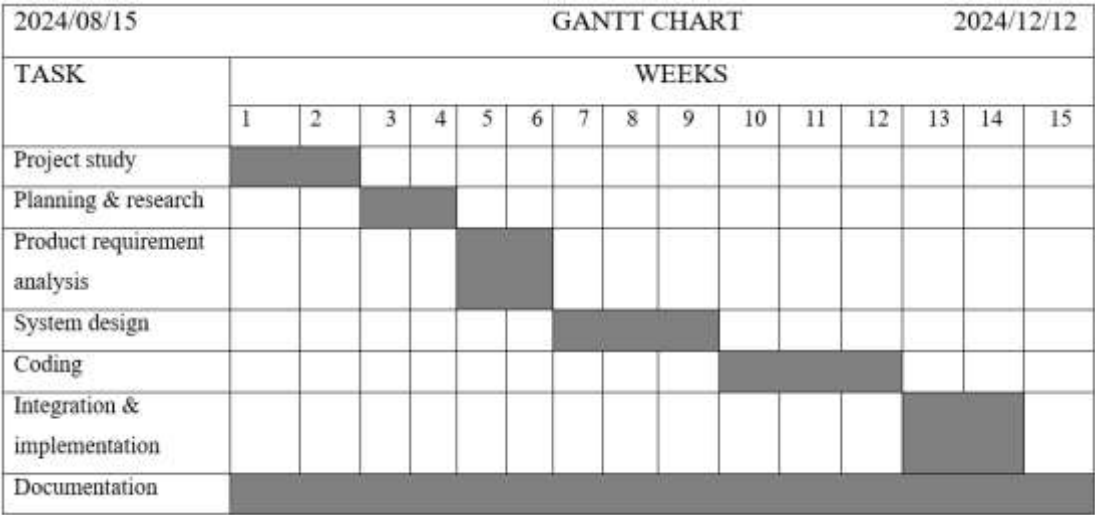The following figure shows the project-scheduling in diagram:

2024/08/15		GANTT CHART											2024/12/12	
TASK	WEEKS													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Project study	███														
Planning & research			███												
Product requirement analysis					███										
System design							███								
Coding										███					
Integration & implementation													███		
Documentation	███████████████████████████████████														

Figure 1: Project scheduling

CHAPTER 4: SYSTEM DESIGN & METHODOLOGY

4.1Software development life cycle

The Software Development Life Cycle (SDLC) is a structured process used in software development projects to ensure high-quality software is produced within the constraints of time and budget. This proposal outlines the implementation of a C++ programming project using the SDLC model.

The Software Development Life Cycle (SDLC) is a framework that defines tasks performed at each step in the software development process. It consists of several phases including planning, requirements gathering, design, implementation, testing, deployment, and maintenance. Each phase has its own set of activities and deliverables, ensuring the systematic progression of the project from inception to completion.
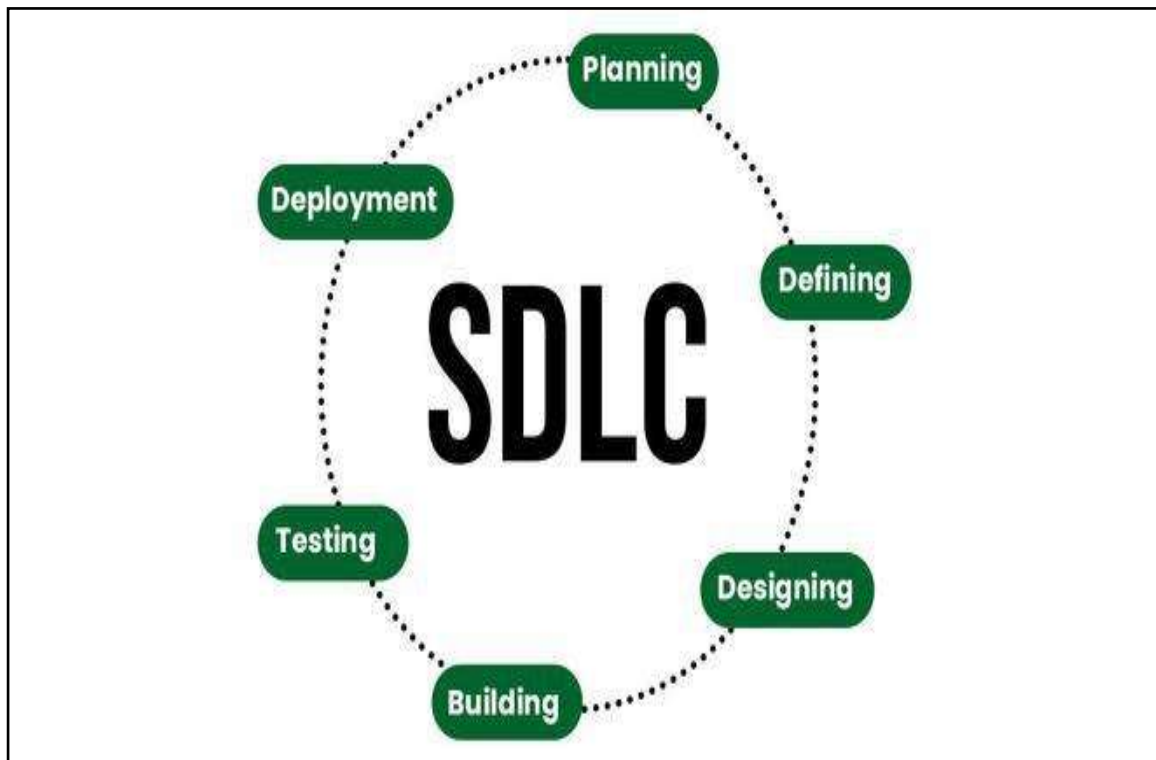
Figure 2: SDLC Model

4.2 Selected Model

For this C++ programming project, we have chosen the Waterfall Model. The Waterfall Model is particularly suitable for projects where requirements are well-defined and unlikely to change significantly throughout the development process. Here are the reasons behind selecting the Waterfall Model:

i. **Stability of Requirements:**

The Waterfall Model assumes that requirements are stable and can be fully defined at the beginning of the project. This model is suitable for projects where there is a clear understanding of what needs to be developed, and changes to requirements are minimal.

ii. **Sequential Progression:**

The Waterfall Model follows a sequential progression of phases, with each phase building upon the deliverables of the previous one. This approach provides a clear structure and roadmap for the project, making it easier to plan and manage.

iii. **Well-Defined Deliverables:**

The Waterfall Model defines specific deliverables for each phase, making it easier to track progress and ensure that all requirements are met. This model emphasizes documentation, ensuring that requirements, designs, and test cases are well-documented throughout the development process.
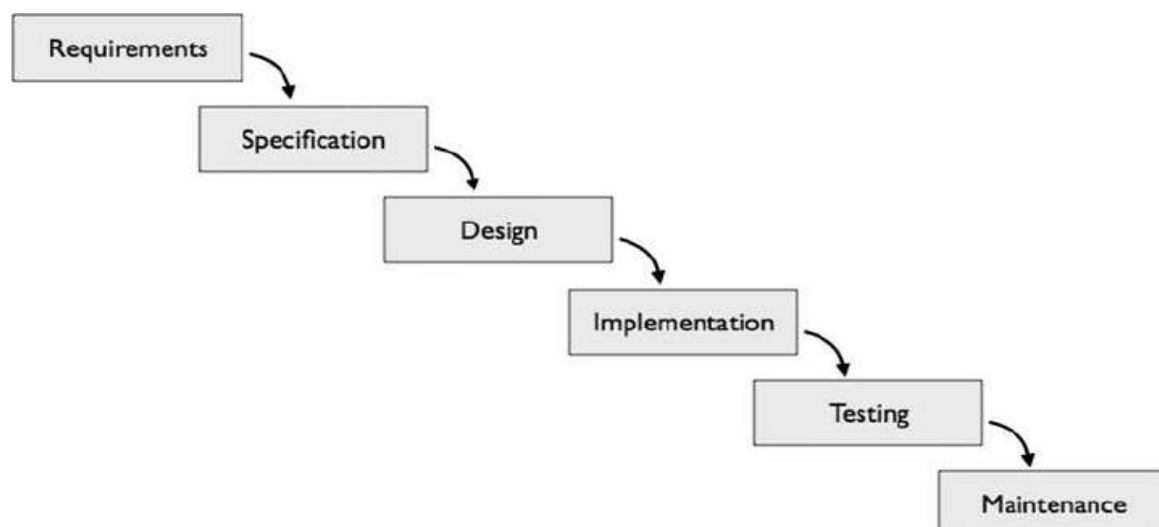
Figure 3: Waterfall SDLC Model

4.3 Algorithm

1. Register
2. Login
3. Exit

(If register)

- Enter a new username and password for register.

(If login)

- Enter username and password for login.

(If correct)

1. Display routes.
2. Book Ticket.
3. Cancel Ticket.
4. Add vehicle.
5. Exit.

(If enter 1): Display route:

- See information about route.
- Search route.

(If enter 2): Book Tickets:

- Choose available bus.
- Choose seat and enter required details.
- Payment details.

(If enter 3): Cancel Tickets:

- Enter ticket no.
- Enter required information.
- Check refund details.

(If enter 4): Display Info:

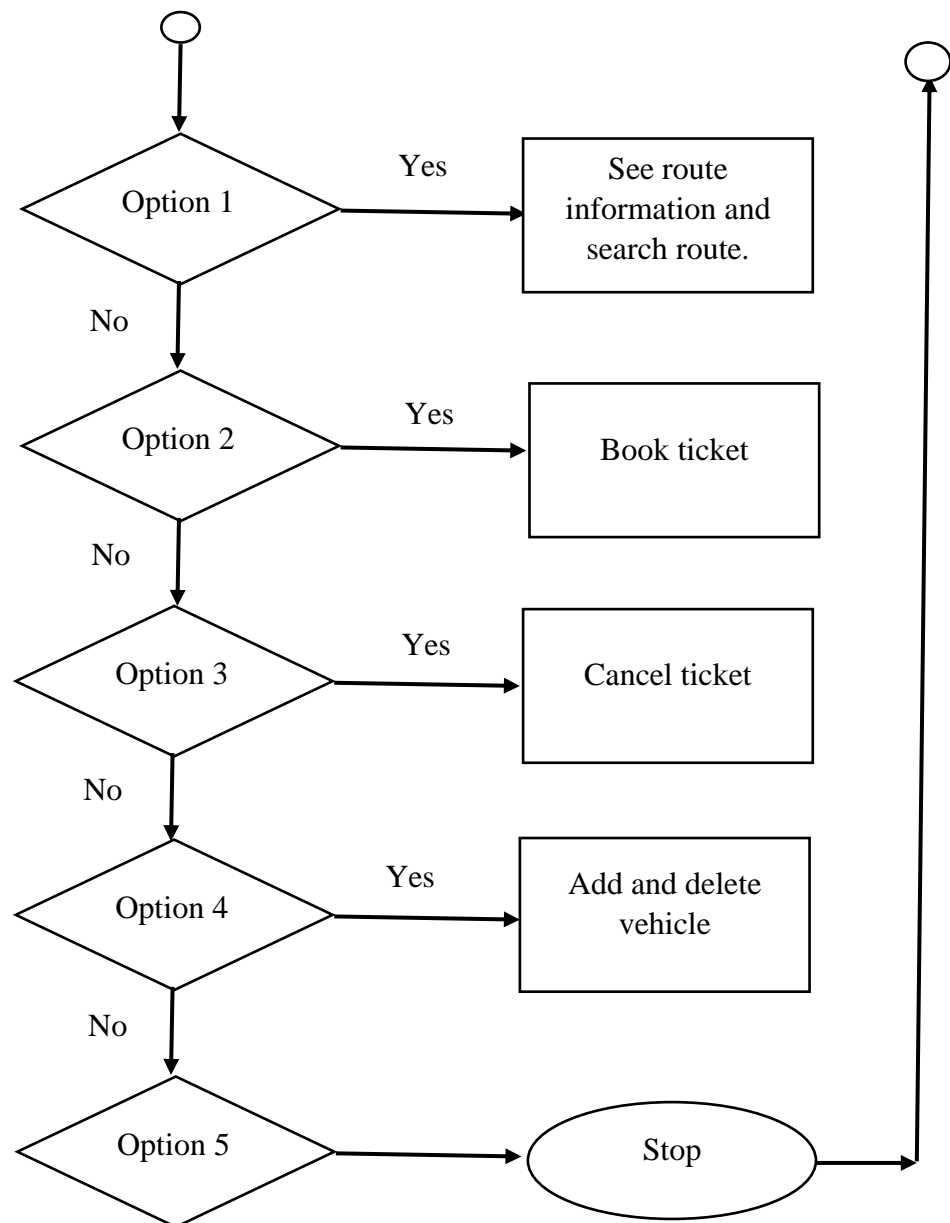- Add and delete vehicle.

(If enter 5): Exit:

- Stop the program.

(If exit) Stop program.

4.4 Flowchart

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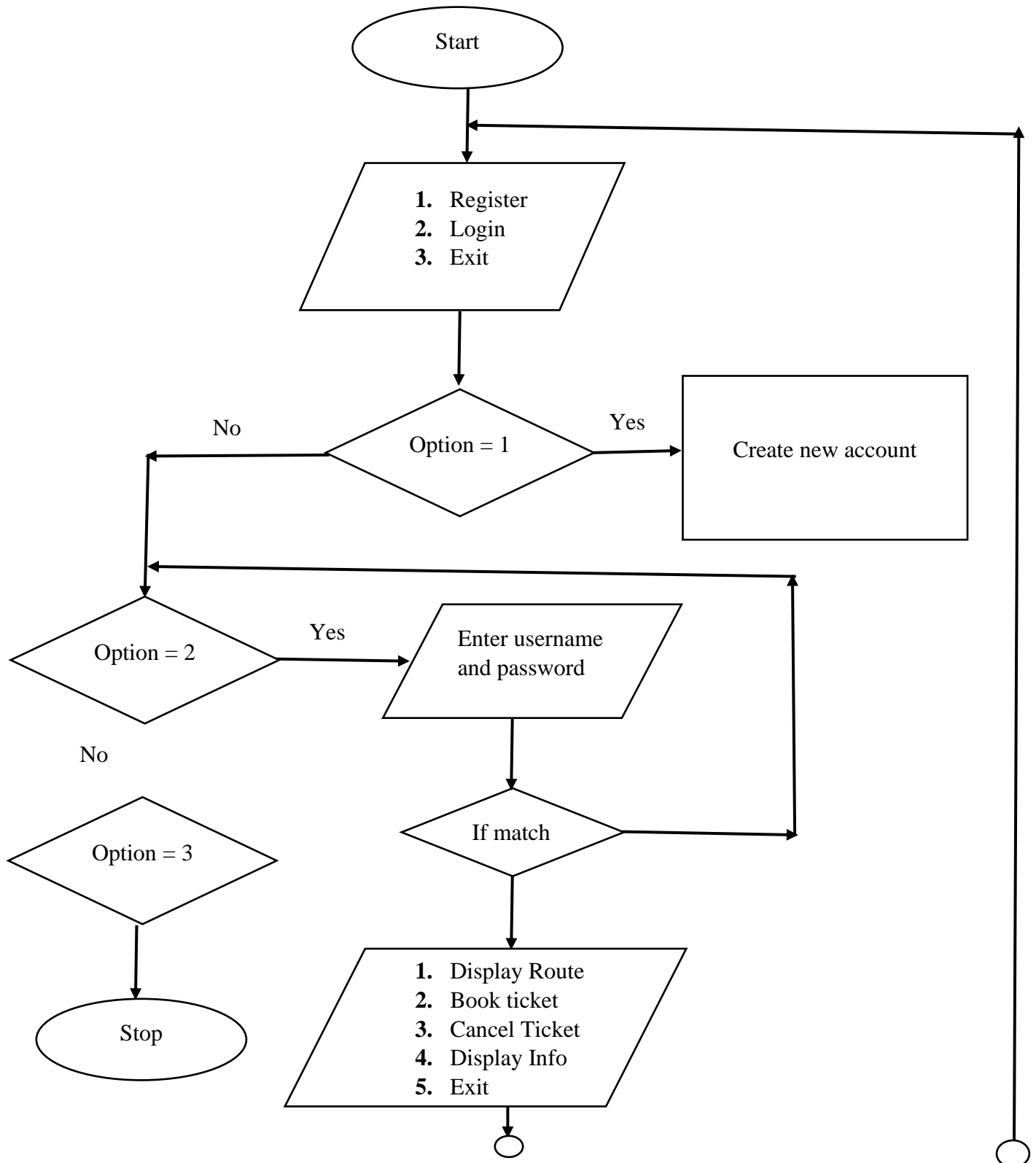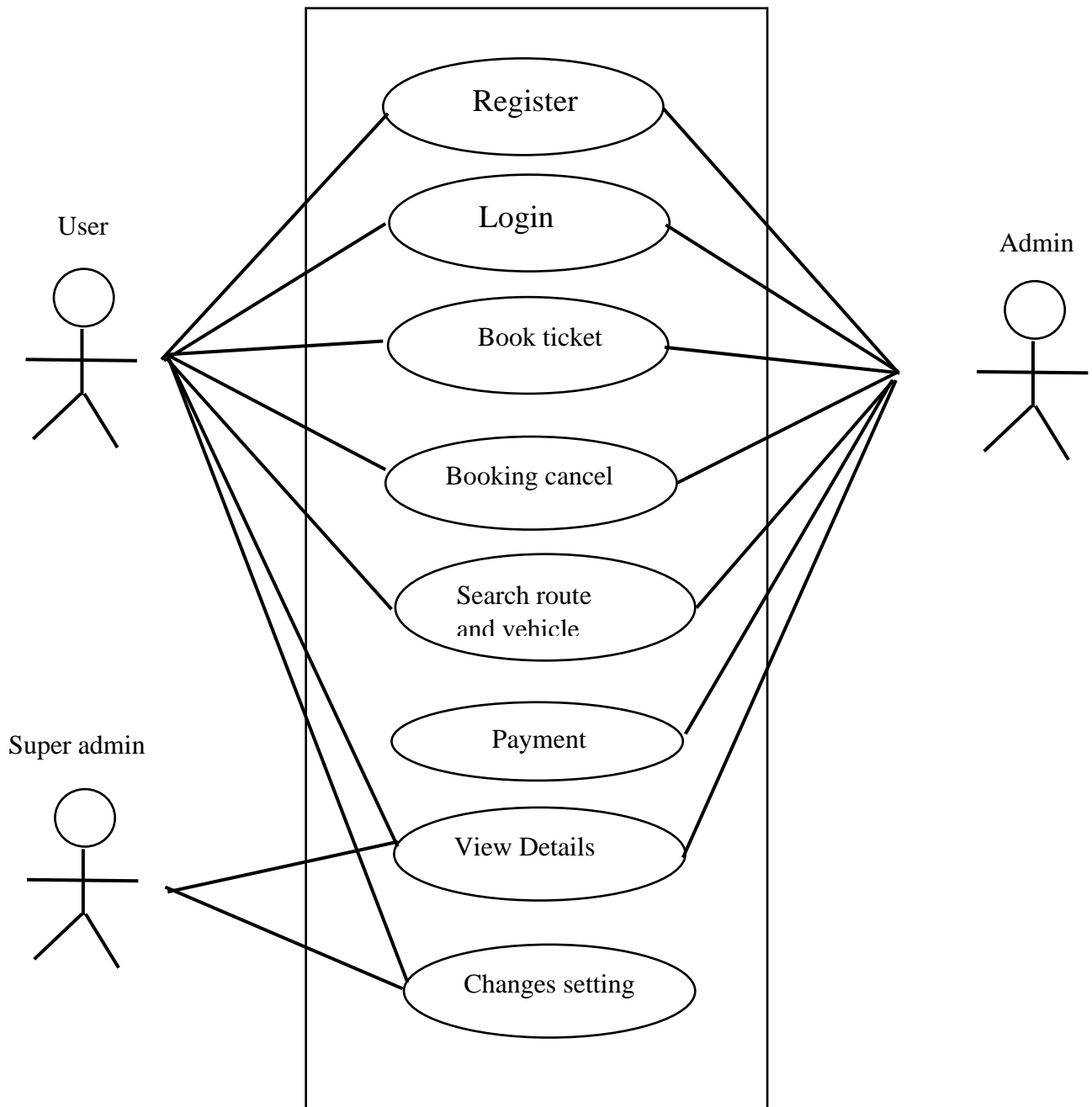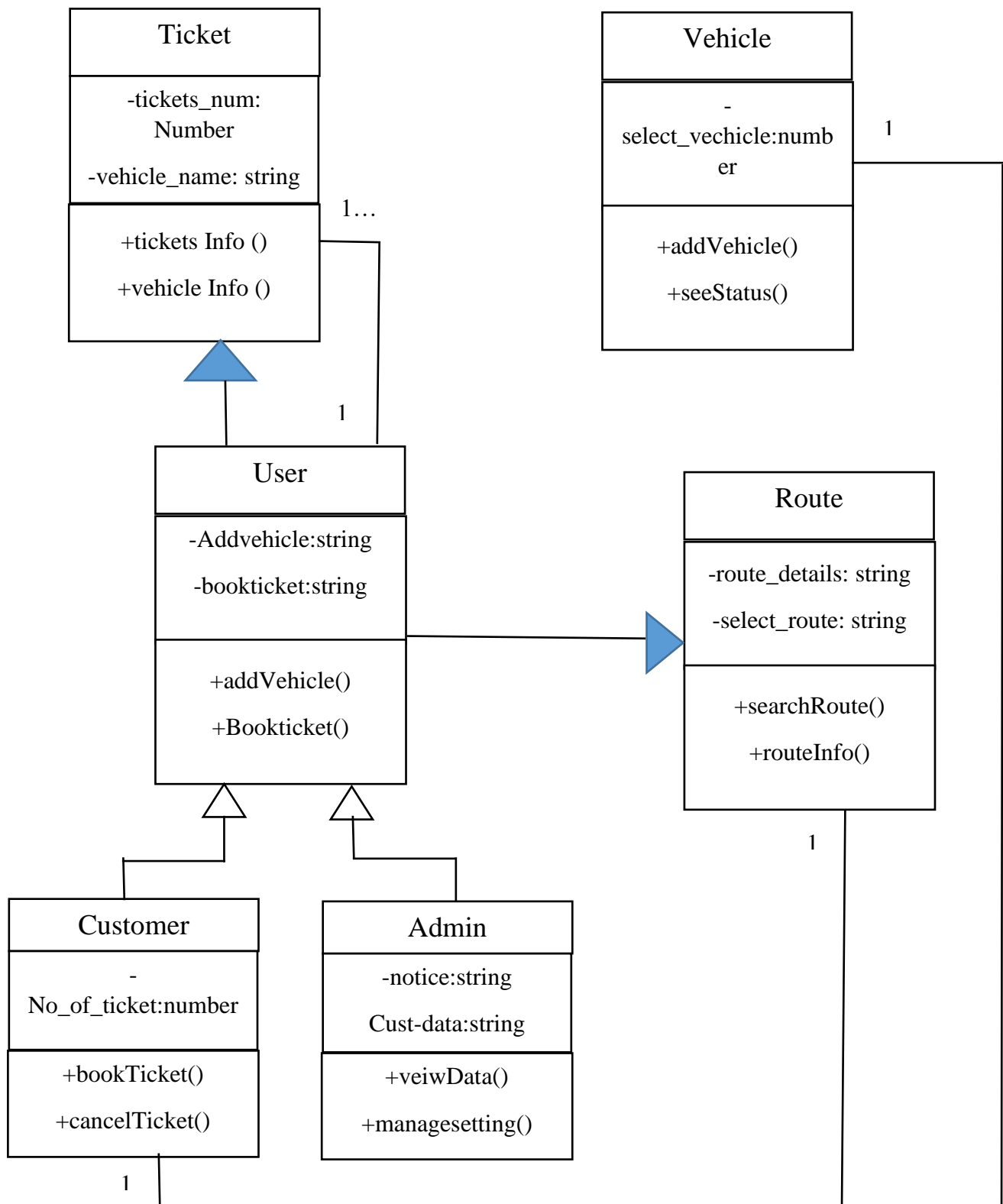
Figure 4: Flowchart

4.5 Use case diagram

Figure 5: Use case diagram

4.6 CLASS DIAGRAM

Figure 6: Class Diagram

CHAPTER 5: EXPECTED OUTCOME

Online ticket booking system play a crucial role for a manage operation of ticket counter effectively by automating various process involved booking tickets, canceling ticket, see available vehicle and seats. By this system admin can tracking their business growth and the see the review of customer which help the growth of business. This system can update ticket counter in computerized system.

Expected Outcome for Online Ticket Booking System:

i.   **User Authentication and Authorization:**
*   Implement functions for verifying username-password authentication.
*   Implement role-based authorization to restrict access to specific functionalities.

ii. **Analysis material:**
*   Tracking available ticket, update route, selecting vehicle and customer review.
*   Manage the ticket counter in a proper way.

iii. **Transaction Processing:**
*   Online payment can easily done through this system.
*   Validate transaction details and update available ticket and vehicle.
*   Generate digital transaction of book receipts for customers as needed.

iv. **Security and Compliance:**
*   Implement measures to protect customer data and vehicle data.
*   Implement security measures to protect against unauthorized access, and cyber threats.

v.   **User Interface and Experience:**
*   While C++ programs typically lack graphical user interfaces, you can design a simple text-based interface with clear prompts and options.
*   Implement intuitive navigation and informative messages to enhance user experience.

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